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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,247	06/20/2003	K. Naresh Chandra Srinivas	14974US01	5550

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EXAMINER

HUYNH, KIM NGOC

ART UNIT

PAPER NUMBER

2182

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/600,247

Applicant(s)

SRINIVAS ET AL.

Examiner

Kim Huynh

Art Unit

2182

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-20 is/are pending in the application.
- 4a) Of the above claim(s) 11-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,10, 17and 20 is/are rejected.
- 7) ☒ Claim(s) 5-9,18 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. This application contains claims 11-16 drawn to a nonelected invention. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-2 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Lee et al. (US 6,498,766).

Claims 1-2, Lee discloses a system for responding to requests (Fig. 4-8 and col. 6-7) comprising: requesting node (memory controller 41) for transmitting a request (COM, read/write request); a responding node (memory module 43) for transmitting a response DQ to the requesting node (memory controller 41); and logic (Fig. 7-8) for transmitting a signal DQS to the requesting node indicating presence of the response if the logic receives a signal DSQW from the responding node 43 indicating the presence

of the data within a predetermined period of time (VDQSWIN1-2, Fig. 5-6) after receiving the signal from the request node indicating the presence of the request.

Claim 10, Lee discloses the memory module are DDR-SDRAM (col. 2, ll. 48-50).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 4 are rejected under 35 U.S.C. 103(a) as being obvious over Jeddelloh et al. (US 6,820,181) in view of Lee.

Claims 1-2, Jeddelloh discloses a system for responding to requests (Fig. 2) comprising: requesting node (memory controller 110) for transmitting a request (command/request is sent from the memory controller 110 to the memory module 130 via memory controller hub 126, col. 4, ll. 17-22); a responding node (memory module 130) for transmitting a response to the request (data is sent from memory device in response to the request, col. 5, ll. 43-49); and logic (hub controller/hub operation) for transmitting a signal to the requesting node indicating presence of response (read response 210, col. 5, ll. 64-67), said logic receiving a signal from the responding node indicating the presence of the data (read data signal, col. 5, ll. 43-45) and receiving a signal from the requesting node indicating the presence of the request (memory request signals, col. 4, ll. 17-22) wherein the request is either a read command.

Jeddeloh does not specifically disclose that the in indicating signal is within a predetermined time interval. Lee disclose a system for enabling the high speed data transmission to avoid timing skew due increase of higher data rate in DDR-SDRAM by providing an indication signal within the time interval VDQSWIN (col. 2, ll. 43-50 and col. 5-7). Jeddeloh suggests that the issuing of the signals (request, response, indication) between the memory hub and the devices are at proper time and sequence to comply with high speed data communication (col. 4, l. 59 to col. 1). Therefore, it would have been obvious to one having ordinary skill in the art to utilize the teaching Lee to provide the indication of data presence within the time interval as taught by Lee in order to provide proper timing and sequence by avoiding timing skew in high speed transmission by avoid.

Claim 4, Jeddeloh discloses the memory controller further having a sequencer core for issuing the command and a queue for receiving data.

6. Claims 17 and 20 are rejected under 35 U.S.C. 103(a) as being obvious over Lee in view of applicant's admitted prior art (APA, paragraphs 8 and 31). Lee discloses a system for transferring data as discussed above except a printed circuit board connected to the memory controller, the memory module and the logic. However, as admitted by the applicant, it is typical for memory controller and memory module to be implemented as separate integrated circuits on the motherboard to conduct read and write transactions over a printed circuit connecting to the memory module. It would have been obvious to one having ordinary skill in the art to implement the controller 41 and the memory module 43 as separate printed circuits in typical motherboard

integrated circuit implementation in order to take advantage of the available manufacturing process of circuit board.

Claim 20, Lee does not disclose the memory controller 41 having a sequencer core for issuing the read command and a queue for receiving the data. However, the examiner take official notice that such elements are essential part of a memory controller to generate command and receiving data and therefore would have been obvious to one having ordinary skill in the art to provide such elements in the memory controller of Lee for performing the intended functions.

#### ***Allowable Subject Matter***

7. Claims 5-9 and 18-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Allowable subject matter is as indicated in the previous office action.

#### ***Response to Arguments***

Applicant's arguments filed 4/24/04 have been considered but are moot in view of the new ground(s) of rejection necessitated by the amendment.

#### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 2182

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

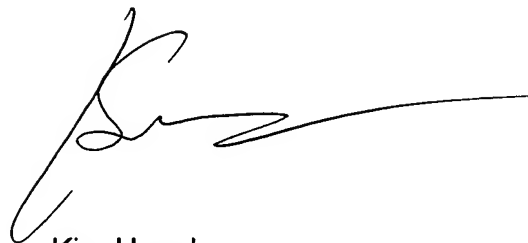
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kim Huynh whose telephone number is (571) 272-4147/272-4147.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2182

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

A handwritten signature in black ink, appearing to be 'Kim Huynh', with a long horizontal stroke extending to the right.

Kim Huynh  
Primary Examiner  
Art Unit 2182

KH  
4/4/05